1. Determine Land Cover

Determine Urban and Agricultural Land Cover based on Currently available GIS data layers. The land cover data was derived from LANDSAT thematic mapper satellite imagery acquired from fly-overs in 1991, 1992 and 1993. Rectangular areas referred to as scenes; each 108 miles on a side organize thematic mapper data. Twelve scenes are required to cover Wisconsin. A scene is comprised of roughly 50 million cells, or pixels, each representing a 30-meter square, or an on-the-ground area of 900 square meters.

A. Urban Land Cover

The urban land cover portion of the groundwater ranking is divided into High Intensity, Low Intensity and Golf Courses. Land covers must be a minimum of 900 square meters in size to be depicted.

i. Determine the percentage of the watershed with urban land cover: _____

ii. Multiply the result in item *i* above by 100 and allot this number points ____x100

iii. Determine the % of High Intensity urban land cover: _____

iv. Determine the % of Low Intensity urban land cover: _____

v. Determine the % of Golf Course _____

vi. Add percentages listed in *iii, iv* and *v.:* _____

vii. Calculate the % of the total watershed area represented by the sum listed @ item *vi*, multiply by 100 and award this number of points:
(*i*)_____x(*vi*)_____x100=_____

For example:
Assume 15 5 of the watershed is devoted to urban land cover.
Further, assume 10% is High Intensity, 10 % is Low Intensity and 2% is Golf Course land cover.
The sum of items *iii*, *iv* and *v* above equals 22%. This watershed would be given 18.3 points.
[(.15x100)+(.15x.22x100)]=18.3

B. Determine Agricultural Land Cover

The agricultural land cover portion of the groundwater ranking focuses on the total percentage of watershed land under agricultural land cover and the number of confined feeding operations.

i. Determine the % of the watershed in agricultural land use:_____

ii. Multiply the % in *i* by 100 and award this number of points (*i*)_____x100=_____

iii. Determine the number of permitted animal feeding operations _____

iv. Multiply the number in *iii* by 10 and award this number of points: (*i*)_____x10=_____

2. Check Nitrate Sampling Results

Check the Groundwater Retrieval Network (GRN) for all nitrate+nitrite sample analytical results within the watershed. This indicates current groundwater quality with respect to nitrate contamination. Further, Additional groundwater sampling within the watershed will provide more information and education and information opportunities for landowners. Each sample result must have a different Wisconsin Unique Well Number (WUWN). Than is, only one sample result per well will be used for the nitrate portion of this analysis. If available, data from other sources may also be used, as long as only one result per well is counted.

A. For a minimum sample size of 1 well test result per 10 mi^2 of watershed area and calculate the percentage of samples that exceed the Preventive Action Limit (PAL) of 2 mg/l but are less than the Enforcement Standard (ES) of 10mg/l. _____%

Award the following number of points for each percentage:

≥10% but < 20% = 1 pt.
≥20% but < 30% = 2 pts.
≥30% but < 40% = 3 pts.
≥40% but < 50% = 4 pts.
≥50% = 5pts. _____pts.

C. For a minimum sample size of 1 well tested per 10 mi^2 of watershed area, calculate the percentage of samples that exceed the Enforcement Standard of 10mg/l _____%

≥ 9% but < 12% = 2 pts.
≥12% but < 14% = 4 pts.
≥14% but < 17% = 6 pts.
≥17% but < 20% = 8 pts.
≥20% = 10 pts. _____pts.

3. If the sample results are available on GRN or elsewhere, count the number of pesticide detects and award the following number of points:

If the number of detects is:

> 1 but < 10 = 1pt.
>10 but < 20 = 2 pts.
>20 = 3 pts. _____pts.

Total Points _____pts.